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APPLICATION NUMBER: 60/458,591

FILING DATE: *March 31, 2003*

RELATED PCT APPLICATION NUMBER: PCT/US04/09757



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7 U.S. PTO

60458591.03340201

PTO/SB/16 (10-01)

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**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No.

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Given Name (first and middle (if any))		Family Name or Surname		Residence (City and either State or Foreign Country)	
Thomas Warren		Haines		4541 Cromwell Dr., Evansville, IN	
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
PROTECTIVE LUBRICANT FORMULATION					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input checked="" type="checkbox"/> Customer Number		28309		<input type="checkbox"/>	
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ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages		9		<input type="checkbox"/> CD(s), Number	
<input type="checkbox"/> Drawing(s) Number of Sheets				<input checked="" type="checkbox"/> Other (specify)	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76				Power of Attorney	
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.				FILING FEE AMOUNT (\$)	
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees				\$80	
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<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
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Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME Gary K. Price

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Date 3/2/03

REGISTRATION NO.  
(if appropriate)  
Docket Number:

45,024

**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

**PROVISIONAL APPLICATION COVER SHEET**  
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Number 2 of 2

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March 24, 2003

United States Patent Office  
Box PATENT APPLICATION  
Assistant Commissioner for Patents  
Washington, DC 20231

RE: Provisional Patent Application  
Title: Protective Lubricant Formulation  
Our Client No. 12056.001

Gentlemen:

Please be advised that this office represents the inventor and owner of the above-referenced application.

Enclosed herewith please find:

1. The Provisional Patent Application for  
the Protective Lubricant Formulation (9 pages);
2. Utility Patent Application Transmittal;
3. Inventor's Small Entity Status Statement;
4. Power of Attorney; and
5. This office's check in the amount of \$80.00, such sum representing the  
Provisional Patent Application.

I also enclose a stamped postcard for return mailing purposes.

Should you have any questions regarding the foregoing, please do not hesitate to contact the undersigned at the letterhead address.

Sincerely,

BOWERS HARRISON, LLP

Gary K. Price

GKP/tjs  
Enclosures  
cc: Thomas Haines

**PROTECTIVE LUBRICANT FORMULATION**

5      CROSS REFERENCES TO RELATED APPLICATIONS: None.

Statement as to rights to inventions made under Federally sponsored research and development: Not Applicable

10      BACKGROUND OF THE INVENTION

1.      Field of the Invention.

15      The present invention relates generally to protective lubricating compositions. More particularly, it relates to a corrosive inhibitor for protecting surfaces by applying a protective lubricant formulation comprising one hundred percent (100%) hydrocarbon components.

20      2.      Brief Description of Prior Art.

25      A plurality of surface protective compositions are known in the art and available. Typically, these lubricants are applied to various surfaces through spraying, brushing or dipping and the lubricant then spreads or flows on the surface area. Such lubricants are applied to surfaces subject to the influence of corrosion. These coatings generally adhere to the permanent finish or metal surfaces which surfaces, when exposed to elements such as fresh or salt water, snow and the like, are susceptible to rapid corrosion. Presently such coating compositions may consist of a hydrocarbon component, but generally include various additives such as, water, esters, amides, glycols, phosphates, which forms the actual protective coatings.

30      Consequently, there exists a need for a surface protectant composition that can be

5 applied to a variety of surfaces yet easy to apply, is self-leveling over the surface and provides anti-corrosive capabilities. Applicants have discovered a new formulation comprising of one hundred percent (100%) hydrocarbon components that is useful as an anti-corrosive lubricant.

10 As will be seen from the subsequent description, the preferred embodiments of the present invention overcome shortcomings of the prior art.

### SUMMARY OF THE INVENTION

15 Briefly stated, the present invention is directed to a quick-leveling liquid surface protectant composition together with a method of imparting a protective coating. The formulation is composed of one hundred percent (100%) hydrocarbon components. In particular, the composition consists of a synthetic iapparaffinic hydrocarbon (mineral spirits), and first and second petroleum hydrocarbons.

20 The protectant formulation can be applied to the surfaces of, for example, marine equipment, automotive, battery terminals, hand tools, farm equipment, recreational vehicles, heavy equipment, motorcycles, bicycles, shop machinery, power tools, household appliances, roller bearings, actuating cables, and hinges. The protective  
25 lubricant formulation of the present invention is easy to apply, is self-leveling over the surface, and provides anti-corrosive capabilities.

The formulation includes from about 20 to about 75 percent by weight of a synthetic iapparaffinic hydrocarbon; from about 1 to about 30 percent by weight of a first  
30 petroleum hydrocarbon; and, from about 1 to about 40 percent by weight of a second petroleum hydrocarbon. Said first petroleum hydrocarbon manufactured by ExxonMobil Corporation under the trade name PROWAX 561, and said second petroleum hydrocarbon manufactured by ExxonMobil Corporation under the trade name PROWAX 891. It is noted that, unless otherwise stated, all percentages given in this specification

5 and the appended claims refer to percentages by weight of total formulation.

The present formulation can be easily and evenly applied. Because this invention is particularly useful as a protective coating on a variety of surfaces, it will be described herein by reference to surfaces. Such description, however, is not intended to limit the  
10 scope of the invention.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be illustrated on the basis of the following description of the preferred embodiments thereof.  
15

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

In accordance with the present invention, a protective lubricant formulation is disclosed. More particularly, the formulation of the present invention is a surface protectant  
20 formulation that can be applied to a variety of surfaces yet easy to apply, is self-leveling over the surface and provides anti-corrosive capabilities.

Specifically, it will be noted in the following description that the present disclosure relates to an improved protective lubricant formulation having anti-corrosive properties.  
25 In the broadest context, the formulation consists of components configured with respect to each other so as to attain the desired objective.

In the preferred embodiment of the present invention, a protective lubricant formulation with enhanced anti-corrosion capabilities is provided comprising of one hundred percent  
30 (100%) hydrocarbon components. In particular, the composition includes a solvent hydrocarbon, and first and second petroleum hydrocarbons.

5 The hydrocarbon solvent, which is mineral spirits, constitutes a major amount of the protective lubricant formulation and is in the range of from about 20% to about 70% by weight of the total composition. Most preferably, the hydrocarbon solvent is present in the range of from about 50% to about 60% by weight of the total composition, with about 55% being optimal. The term "mineral spirits" as it is used herein is preferably  
10 the chemical named synthetic iapparaffinic hydrocarbon having solvent-like properties to harmonize the action of the other ingredients contained in the lubricant formulation of the present invention as described hereinafter.

The first and second petroleum hydrocarbon components together constitute the  
15 balance of the protective lubricant formulation. In particular, the first petroleum hydrocarbon is in the range of from about 1% to about 35% by weight of the total formulation. Most preferably, the first petroleum hydrocarbon is present in the range of from about 13% to about 23% by weight of the total formulation, with about 18% being optimal.

20 The physical properties of the first petroleum hydrocarbon can be generally defined as:

APPEARANCE: Wax

ODOR: Mild

BOILING POINT C (F): 302 (575)

25 FLASH POINT C (F) : > 232 (450) (ASTM D-92)

VAPOR PRESSURE - mmHg 20 C: < 0.1

RELATIVE DENSITY, 15/4 C: 0.79

SOLUBILITY IN WATER: Negligible

PARTITION COEFFICIENT: > 3.5

30 VISCOSITY AT 40 C, cSt: >70.0

VISCOSITY AT 100 C, cSt: > 6.8

In accordance with the preferred most preferred embodiment, the first petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name

5 PROWAX 561.

The second petroleum hydrocarbon is in the range of from about 1% to about 40% by weight of the total formulation. Most preferably, the second petroleum hydrocarbon is present in the range of from about 21% to about 31% by weight of the total formulation, with about 26% being optimal.

10

The physical properties of the second petroleum hydrocarbon can be generally defined as:

APPEARANCE: Wax

ODOR: Mild

15 BOILING POINT C (F): 316 (600)

FLASH POINT C (F) : > 285 (545) (ASTM D-92)

VAPOR PRESSURE - mmHg 20 C: < 0.1

RELATIVE DENSITY, 15/4 C: 0.815

SOLUBILITY IN WATER: Negligible

20 PARTITION COEFFICIENT: > 3.5

VISCOSITY AT 40 C, cSt: > Not Applicable

VISCOSITY AT 100 C, cSt: > 16.0

25 In accordance with the preferred most preferred embodiment, the second petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 890.

30 The formulation can be prepared by thoroughly mixing with slight agitation each of the components. Preferably, the formulation is prepared by the following steps: charge the desired amount of the solvent hydrocarbon to a mix vessel, add the first petroleum hydrocarbon to the mix vessel with slight agitation, then add the second petroleum hydrocarbon to the mix vessel with slight agitation and continue to agitate at ambient temperature until all the ingredients are thoroughly mixed. In the more preferred embodiment, the formulation is mixed using about 55% mineral spirits, about 18% of

5 the first petroleum hydrocarbon, and about 26% of the second petroleum hydrocarbon. In this embodiment, the formulation can be applied to the surface to be protected by the use of an aerosol, preferably a non-polar aerosol, or by a pump spray. Of course, other means of applying the formulation are contemplated, such as by wetting a sponge, brush, cloth or the like, with the formulation and then applying the sponge, brush or  
10 cloth directly to the surface to be protected, or when applicable, by submerging the object to be protected directly into the formulation. When not applying the formulation with a spray or aerosol as discussed above, the ratio of the formulation may be varied consistent with the acceptable range disclosed herein.

15 Although the description above contains many specificities, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. It is understood the components of the protective lubricant described and characterized here are not exclusive of other equivalent components which are within the scope of the appended  
20 claims. It should be understood by one skilled in possession of this disclosure having studied the same that he can determine by mere routine tests components equivalent to the solvent hydrocarbon component and the first and second petroleum hydrocarbon components of the invention for admixture therewith.

25 Thus the scope of the invention should be determined by the appended claims in the formal application and their legal equivalents, rather than by the examples given.

30

## 5      Claims

I claim:

- 10      1.      A surface protective lubricant formulation having anti-corrosive capabilities, said  
lubricant formulation comprising:  
         a solvent hydrocarbon,  
         a first petroleum hydrocarbon, and  
         a second petroleum hydrocarbon,  
         wherein the hydrocarbon solvent is in the range of from about 20% to about 70%  
15      by weight of the total formulation,  
         wherein the first petroleum hydrocarbon is in the range of from about 1% to  
about 35% by weight of the total formulation, and  
         wherein the second petroleum hydrocarbon is in the range of from about 1% to  
about 40% by weight of the total formulation.
- 20      2.      The protective lubricant formulation as recited in Claim 1, wherein the  
hydrocarbon solvent is about 55% by weight of the total formulation.
- 25      3.      The protective lubricant formulation as recited in Claim 2, wherein the first  
petroleum hydrocarbon is about 18% by weight of the total formulation.
4.      The protective lubricant formulation as recited in Claim 3, wherein the second  
petroleum hydrocarbon is about 26% by weight of the total composition.
- 30      5.      The protective lubricant formulation as recited in Claim 1, wherein the first  
petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade  
name PROWAX 561.
6.      The protective lubricant formulation as recited in Claim 1, wherein the second

5 petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 890.

7. A method of preparing a surface protective lubricant formulation having anti-corrosive capabilities comprising:

10 adding a solvent hydrocarbon to a mix vessel,  
adding a first petroleum hydrocarbon to the mix vessel with slight agitation,  
adding a second petroleum hydrocarbon to the mix vessel with slight agitation,  
agitating until all the ingredients are thoroughly mixed,  
wherein the hydrocarbon solvent is in the range of from about 20% to about 70%  
15 by weight of the total formulation,

wherein the first petroleum hydrocarbon is in the range of from about 1% to about 35% by weight of the total formulation,

wherein the second petroleum hydrocarbon is in the range of from about 1% to about 40% by weight of the total formulation,

20 wherein the first petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 561, and

wherein the second petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 890.

25 8. The method as recited in Claim 7, wherein the hydrocarbon solvent is about 55% by weight of the total formulation.

9. The method as recited in Claim 8, wherein the first petroleum hydrocarbon is about 18% by weight of the total formulation.

30 10. The method as recited in Claim 9, wherein the second petroleum hydrocarbon is about 26% by weight of the total composition.

5

## ABSTRACT OF THE DISCLOSURE

A surface protective lubricant formulation that can be applied to a variety of surfaces and provides enhanced anti-corrosion capabilities, said formulation consisting of one hundred percent (100%) hydrocarbon components. In particular, the composition includes a solvent hydrocarbon, and first and second petroleum hydrocarbons. The hydrocarbon solvent, which is mineral spirits, is in the range of from about 20% to about 70% by weight of the total formulation, with about 55% being optimal. The solvent hydrocarbon used herein is preferably the chemical named synthetic iapparaffinic hydrocarbon. The first petroleum hydrocarbon is in the range of from about 1% to about 35% by weight of the total composition, with about 18% being optimal. The first petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 561. The second petroleum hydrocarbon is in the range of from about 1% to about 40% by weight of the total composition, with about 26% being optimal. The second petroleum hydrocarbon is manufactured by ExxonMobil Corporation under the trade name PROWAX 890.

PTO/SB/09 (12-97)

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**STATEMENT CLAIMING SMALL ENTITY STATUS  
(37 CFR 1.9f & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Thomas W. Haines

Application or Patent No.: \_\_\_\_\_

Filed or Issued: \_\_\_\_\_

Title: Protective Lubricant Formulation

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9 (c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

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Thomas W. Haines

NAME OF INVENTOR



Signature of inventor

3/17/03

Date

George O. Kiefer

NAME OF INVENTOR



Signature of inventor

3/17/03

Date

NAME OF INVENTOR

Signature of inventor

Date

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Title of Invention: Protective Lubricant Formulation  
 Co-Inventor: George O. Kiefer

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 Registration No. 45,024

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George O. Kiefer, Co-Inventor

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Spencer  
 My Commission Expires:

4-7-09



Notary Public

Jennifer L. Wilhelmus

(Printed Name)

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 Co-Inventor: Thomas Warren Haines

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Thomas W. Haines, Co-Inventor

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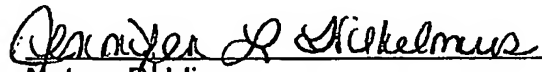
COUNTY OF VANDERBURGH )

Before me, a Notary Public in and for said county and state, personally appeared the within named, who acknowledged the foregoing as free and voluntary act and deed.

WITNESS my hand and Notarial Seal this 17<sup>th</sup> day of March, 2003.

My County of Residence is:

Spencer  
 My Commission Expires:  
4.7.09



Notary Public

Jennifer L. Wilhelmus

(Printed Name)

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